International Journal of Pharmacy and Technology, 2016, vol.8, N3, pages 14902-14910

Modeling of internal combustion engines test conditions based on neural network

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Abstract

© 2016,International Journal of Pharmacy and Technology. All rights reserved.In the present the world the problems of the fuel and energy resources' optimization consumption belong to challenging issues. Transport consumes more than 30% of the produced hydrocarbons,and the fuel costs account for about 20% of the product cost [1]. More highly charged is the environmental contamination,and more than half of the emissions can be attributed to the share of internal combustion engines (ICE). Production of the internal combustion engines is enhanced towards improving the engine's environmental,economic and operational parameters. This involves the use of electronic control units - ignition control and fuel injection systems. It allows to greatly reducing the ICE energy consumption and emission toxicity [2]. During the vehicle operation corresponding units and knots always wear and age. This leads to deterioration of economic,environmental and effective parameters of a vehicle [3]. Therefore,in order to maintain an ICE in the optimum condition and to early detect any changes in the parameters that lead to deterioration of the environmental,economic and effective parameters of its operation,the main aspect includes the maintenance and repair system,its scientific validity and perfection. In such case the technical diagnostics is of paramount importance.

Keywords

Automated system, Engine tests, Fuzzy neural network, Internal combustion engine